CLAIM LISTING

1. (Currently Amended) Method for preparing a porous metal implant or scaffold for tissue engineering by providing a porous body, ~~suitable for the production of a porous metal article,~~ comprising the steps of:

providing a polymeric foam, ~~which foam is impregnated~~

impregnating the polymeric foam with a slurry of metal particles,

drying the impregnated foam,

placing the impregnated foam in an environment for carrying out pyrolysis,

placing metal hydride particles in a different location of the same environment, and

pyrolyzing the impregnated foam in the presence of the metal hydride particles.

2. (Currently Amended) Method according to claim 1, further comprising:

placing the porous body in an environment for carrying out sintering,

placing metal hydride particles in a different location of the same environment, and

sintering the porous body in the presence of the metal hydride particles to form the porous metal implant or scaffold for tissue engineering.

3. (Currently Amended) Method for preparing a porous metal implant or scaffold for tissue engineering by providing a porous metal coating to a metal substrate, comprising the steps of:

providing a polymeric foam, ~~which foam is impregnated~~

impregnating the polymeric foam with a slurry of metal particles,

applying the slurry of metal particles to the metal substrate,

contacting the impregnated foam with the metal substrate so as to adhere the foam onto the substrate,

drying the impregnated foam adhered to the metal substrate,

placing the impregnated foam adhered to the metal substrate in an environment for carrying out pyrolysis,

placing metal hydride particles in a different location of the same environment,

~~pyrolysis~~ pyrolyzing in the presence of the metal hydride particles,

followed by sintering in the presence of the metal hydride particles to form the porous metal implant or scaffold for tissue engineering.

4. (Original) Method according to claim 3, wherein the substrate comprises a metal selected from titanium, tantalum, titanium alloy, tantalum alloy, cobalt-chromium, stainless steel, nickel and nickel alloy, zirconium, niobium and mixtures thereof.

5. (Original) Method according to claim 4, wherein the substrate comprises titanium or a titanium alloy.

6. (Canceled)

7. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said metal particles are [[is]] selected from titanium, tantalum, titanium alloy, tantalum alloy, cobalt-chromium, stainless steel, nickel and nickel alloy, zirconium, niobium and mixtures thereof.

8. (Currently Amended) Method according to claim 7, wherein said metal particles are [[is]] titanium or a titanium alloy.

9. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said metal hydride is based on the same metal as said metal particles.

10. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said polymeric foam comprises polyurethane.

11. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said slurry further comprises one or more of the following additives: a binder, a defloculant, a viscosity modifying agent and/or a pH-modifying agent.

12. (Original) Method according to claim 11, wherein said slurry comprises a binder selected from PEG4000, methylcellulose and/or carboxyl methyl cellulose (CMC).

13. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said metal particles have a mean diameter of 5-100 μm.

14. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said pyrolysis is carried out at a pressure of 10^{-3}-10^{-2} mbars.

15. (Currently Amended) Method according to claim 2 ~~any of the previous claims~~, wherein said sintering is carried out at a pressure of 10^{-6}-10^{-4} mbars.

16. (Currently Amended) Method according to claim 1 ~~any of the previous claims~~, wherein said pyrolysis is carried out at a temperature of 150 to 550°C.

17. (Currently Amended) Method according to claim 2 ~~any of the previous claims~~, wherein said sintering is carried out at a temperature of 1050-1350°C.

18. (Withdrawn) Article of manufacture comprising a porous body obtainable by a method according to any of the claims 1,2 or 4-17.

19. (Withdrawn) Article of manufacture comprising a coated substrate obtainable by a method according to any of the claims 3-17.

20. (Withdrawn) Article according to claim 18 or 19, which is a medical implant, preferably a bone replacement material or a scaffold.

21. (Withdrawn) Medical implant comprising a porous metal structure or coating with a porosity of at least 50%, having a mean pore size of at least 400 μm, wherein the pores are interconnected, which implant has a compressive strength of at least 10 MPa, wherein the metal is selected from titanium, tantalum, titanium alloys, tantalum alloys and combinations thereof.

22. (Withdrawn) Use of a metal hydride in a sintering and/or pyrolysis process for the manufacture of porous metal articles from metal particles.

23. (Currently Amended) Method for preparing a porous metal implant or scaffold for tissue engineering by providing a porous metal coating to a metal substrate, comprising the steps of:

providing a sintered porous metal article,

applying a slurry of metal particles to the metal substrate,

contacting the sintered porous metal article with the metal substrate so as to adhere the article onto the substrate,

drying the sintered porous metal article adhered to the metal substrate,

placing the sintered porous metal article adhered to the metal substrate in an environment for carrying out pyrolysis,

placing metal hydride particles in a different location of the same environment,

~~pyrolysis~~ pyrolyzing in the presence of the metal hydride particles,

followed by sintering in the presence of the metal hydride particles to form the porous metal implant or scaffold for tissue engineering.

24. (New) Method according to claim 3, wherein said metal particles are selected from the group consisting of titanium, tantalum, titanium alloy, tantalum alloy, cobalt-chromium, stainless steel, nickel and nickel alloy, zirconium, niobium and mixtures thereof.

25. (New) Method according to claim 24, wherein said metal particles are titanium or a titanium alloy.

26. (New) Method according to claim 3, wherein said metal hydride is based on the same metal as said metal particles.

27. (New) Method according to claim 3, wherein said polymeric foam comprises polyurethane.

28. (New) Method according to claim 3, wherein said slurry further comprises one or more of the following additives: a binder, a defloculant, a viscosity modifying agent and/or a pH-modifying agent.

29. (New) Method according to claim 28, wherein said slurry comprises a binder selected from PEG4000, methylcellulose and/or carboxyl methyl cellulose (CMC).

30. (New) Method according to claim 3, wherein said metal particles have a mean diameter of 5-100 μm.

31. (New) Method according to claim 3, wherein said pyrolysis is carried out at a pressure of 10^{-3}-10^{-2} mbars.

32. (New) Method according to claim 3, wherein said sintering is carried out at a pressure of 10^{-6}-10^{-4} mbars.

33. (New) Method according to claim 3, wherein said pyrolysis is carried out at a temperature of 150 to 550°C.

34. (New) Method according to claim 3, wherein said sintering is carried out at a temperature of 1050-1350°C.

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